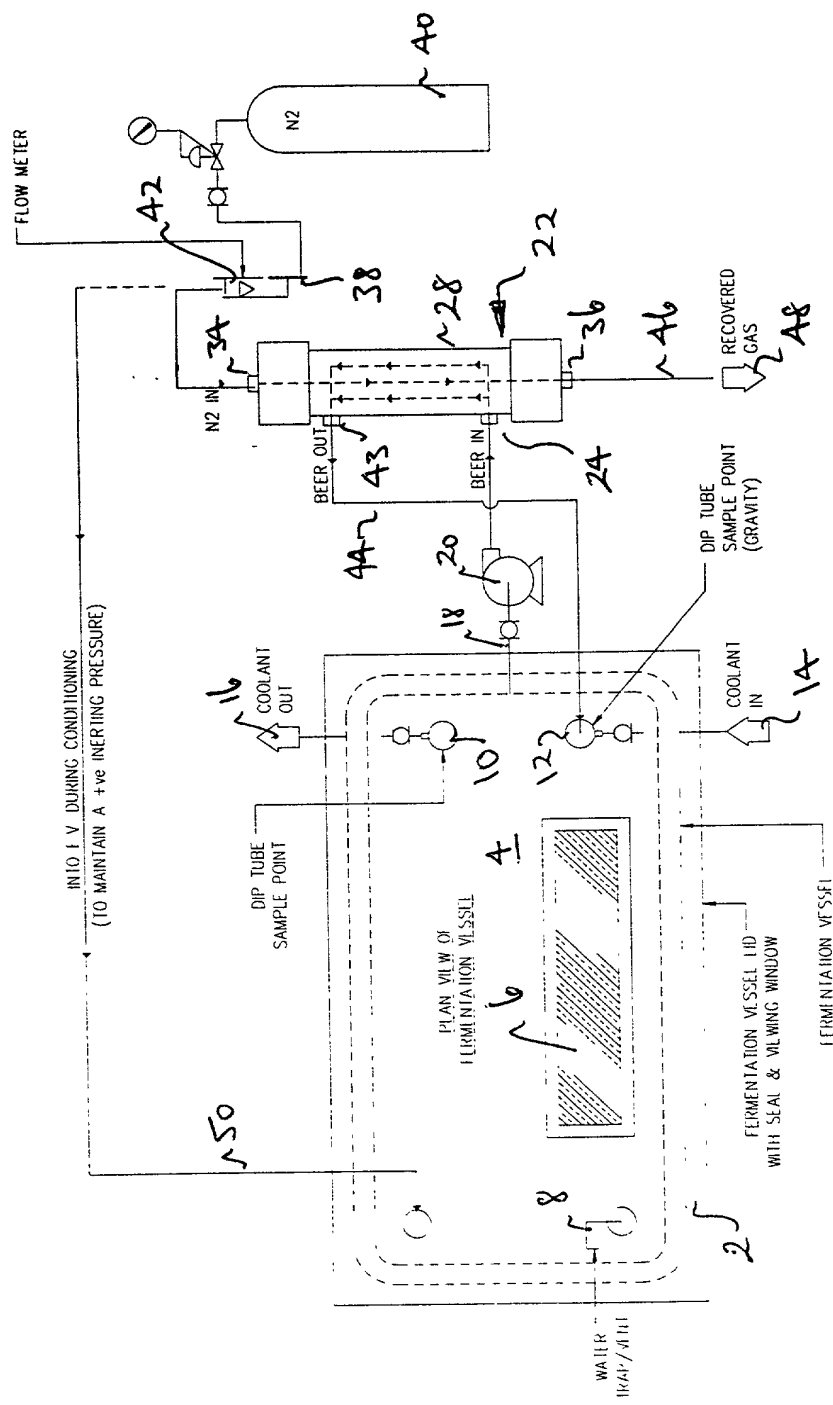
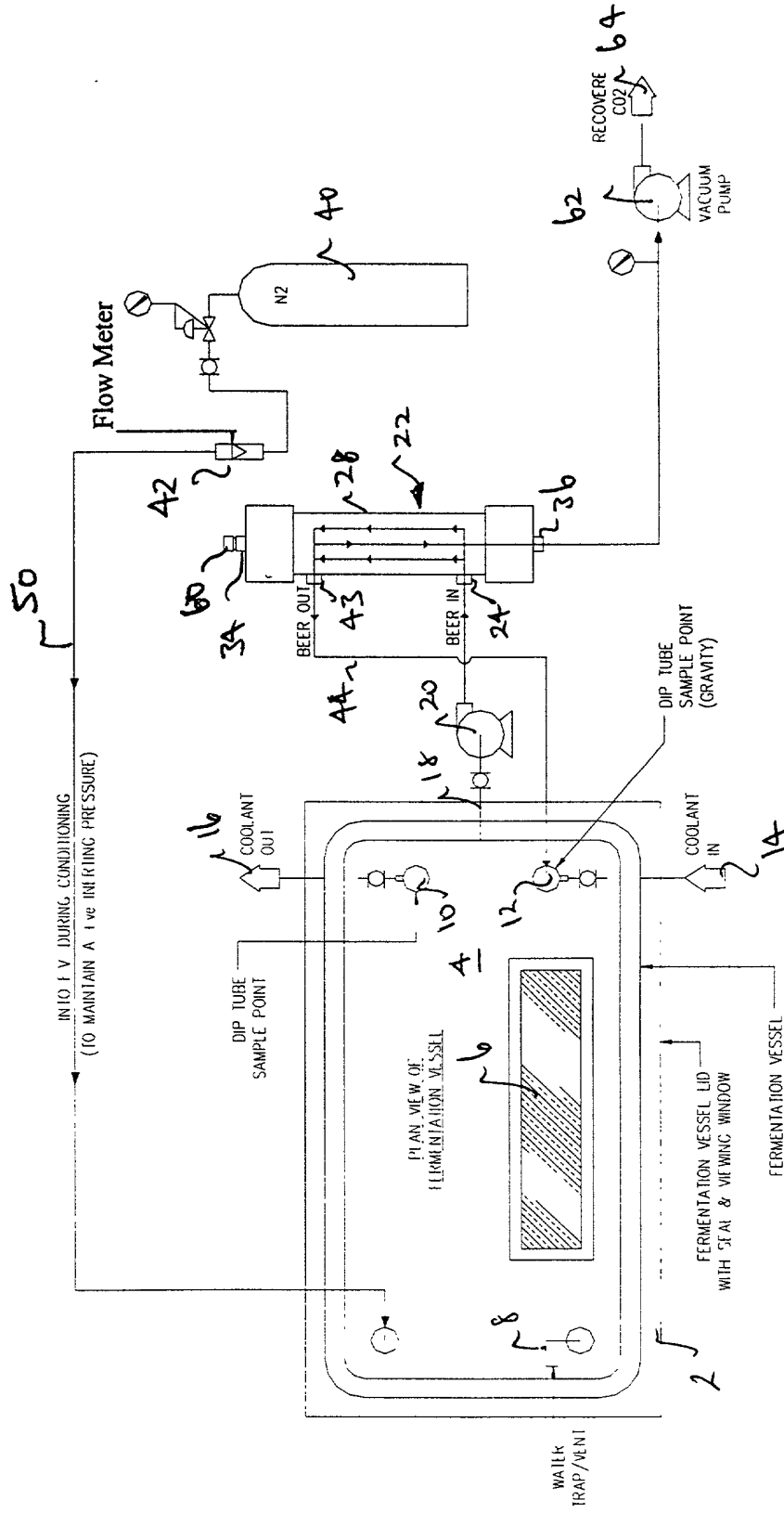


Figure 1: Fermostat With Nitrogen Sweep Gas for CO₂ Removal



The diagram illustrates a fermentation vessel (1) with a jacket (2) for temperature control. The vessel is equipped with an agitator (3) and a stirrer (4). A liquid (5) is circulated through the jacket by a pump (20). The liquid enters the jacket through a line (18) and exits through a line (19). The liquid is then heated or cooled by a heat exchanger (22) and returns to the jacket through a line (24). The heat exchanger (22) is shown with a cross-section (26) and a top view (28). It has a liquid inlet (30) and a liquid outlet (32). The heat exchanger is connected to a liquid source (34) and a liquid sink (36). The liquid source (34) is connected to the heat exchanger (22) through a line (38). The liquid sink (36) is connected to the heat exchanger (22) through a line (40). The heat exchanger (22) is also connected to a liquid source (42) and a liquid sink (44). The liquid source (42) is connected to the heat exchanger (22) through a line (46). The liquid sink (44) is connected to the heat exchanger (22) through a line (48).

Figure 3: Fermostat With Vacuum Pump for CO₂ Removal



Conversion as a function of time

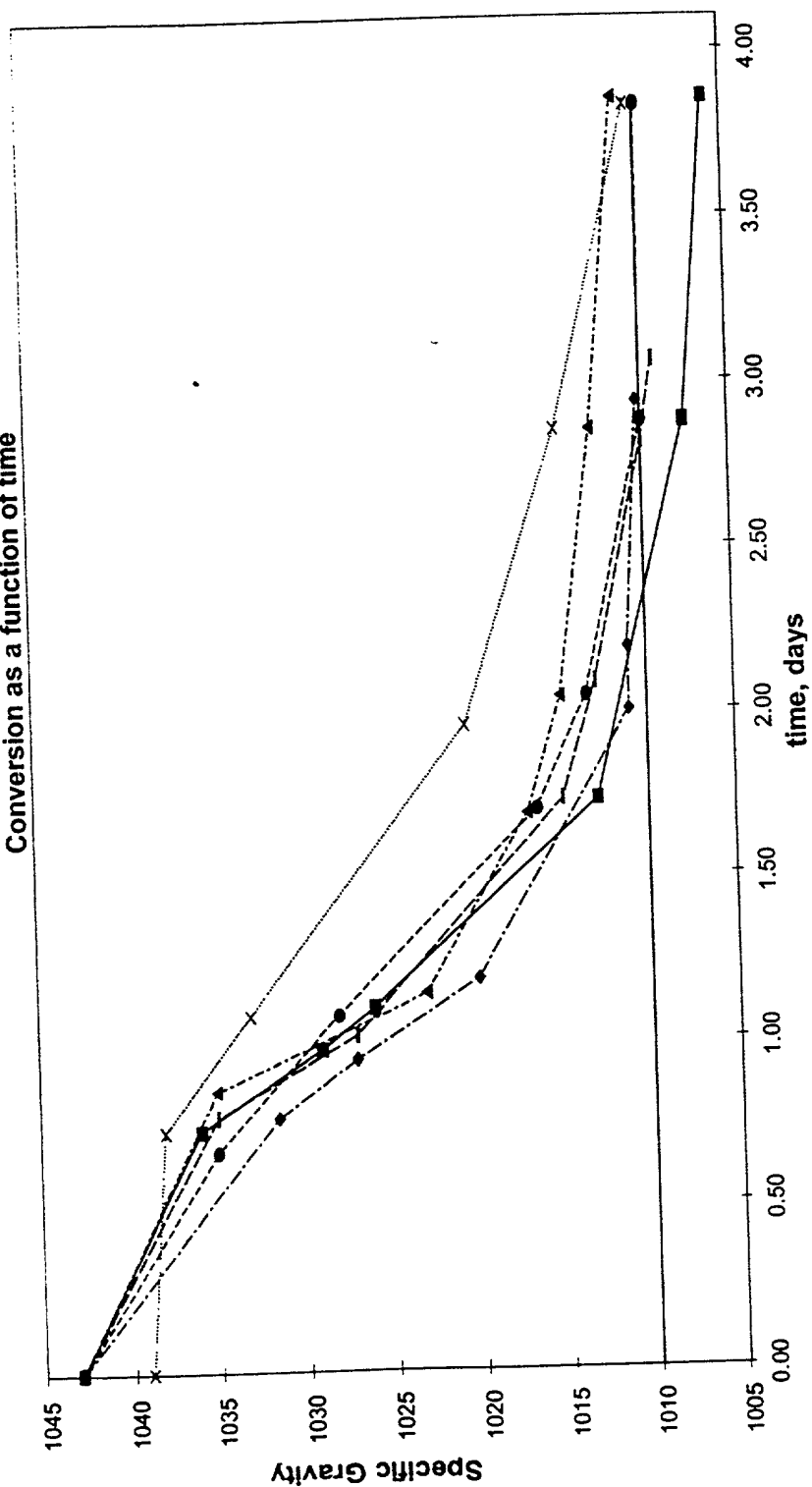


FIGURE 5